

## REMARKS

The present invention relates to co-repressor polypeptides that are capable of mediating the transcriptional silencing of at least one member of the steroid/thyroid hormone superfamily of receptors. Exemplary members of the silencing mediators of retinoic acid and thyroid hormone receptors (SMRT) family of co-repressors are provided, including full length human SMRT co-repressors, as well as various isoforms of mouse and Drosophila SMRT co-repressors.

By the present communication, claims 5 and 14 have been amended and new claim 39 has been added to define Applicants' invention with greater particularity. No new matter is introduced by the subject amendments as the amended claim language is fully supported by the specification and original claims. In addition, claims 23 and 25 have been cancelled without prejudice.

It is respectfully submitted that entry of the amendments submitted herewith is proper because these amendments place the present application in condition for allowance or at a minimum, in better condition for appeal. In addition, these amendments reduce the number of claims under consideration. Accordingly, entry of the amendments submitted herewith is respectfully requested.

Upon entry of the amendments submitted herewith, claims 3-5, 14, 16, 18-22 and 39 will be pending in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination, is presented in the Listing of Claims, beginning on page 2 of this communication, with an appropriate status identifier for each claim.

The Examiner's indication that claims 3, 4 and 19-22 are allowed is acknowledged with appreciation.

Rejections under 35 U.S.C. §102

The rejection of claims 5, 23 and 25 under 35 U.S.C. §102(b) as allegedly being anticipated by Chen et al. (Nature, October 1995, vol. 377(6548), pp. 454-457), is respectfully traversed for at least the reasons already of record. In particular, Applicants respectfully disagree with the Examiner's assertion that "the polypeptide taught by Chen is encoded by a polynucleotide sequence that encodes a polypeptide that is ~94% identical to the sequence of SEQ ID NO:5" (Office Action, page 4). It is respectfully submitted that a comparison of polypeptide sequence disclosed by Chen to the sequence of SEQ ID NO:5 reveals that the sequences share only 60% identity. Thus, the Chen polypeptide does not meet the "at least 80% sequence identity to SEQ ID NO:5" requirement of claim 4. Therefore, the Chen reference does not anticipate the present claims. However, in order to reduce the issues and expedite prosecution, claim 5 has been amended herein to recite "polynucleotide has the sequence set forth in SEQ ID NO: 4." Further, this rejection, as it applies to claims 23 and 25 has been rendered moot by the cancellation herein of claims 23 and 25.

Accordingly, reconsideration and withdrawal of this rejection of claims 5, 23 and 25 under 35 U.S.C. §102(b) are respectfully requested.

The rejection of claims 5, 23 and 25 under 35 U.S.C. §102(a) as allegedly being anticipated by Park et al. (PNAS USA, 30 March 1999, vol. 96(7), pp. 3519-3524), is respectfully traversed for at least the reasons already of record. Specifically, it is respectfully submitted that Applicants' publication of the findings in Ordentlich et al (PNAS 96(6):2639-44), two weeks prior to the publication of the Park reference demonstrates that Applicants were in possession of the present invention before the effective date of the Park publication. Thus, the Park reference is not applicable against the present claims.

However, in efforts to reduce the issues and expedite prosecution, claim 5 has been amended herein to recite "polynucleotide has the sequence set forth in SEQ ID NO: 4." As the

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sequence disclosed by Park contains deletions and additions, relative to the encoded polypeptide sequence of SEQ ID NO:5, Park does not teach a polypeptide having the sequence of SEQ ID NO:5. Thus, this reference does not anticipate the claims at issue. Further, this rejection, as it applies to claims 23 and 25 has been rendered moot by the cancellation herein of claims 23 and 25.

Accordingly, reconsideration and withdrawal of this rejection of claims 5, 23 and 25 under 35 U.S.C. §102(a) are respectfully requested.

*Rejections under 35 U.S.C. §112, first paragraph—Written description*

The rejection of claims 23 and 25 under 35 U.S.C. §112, first paragraph as allegedly failing to comply with the written description requirement is respectfully traversed.

In particular Applicants respectfully disagree with the Examiner's assertion that "the skilled artisan would not have been able to envision a sufficient number of specific embodiments that meet the functional limitations of the claims to describe the broadly claimed genus of oligonucleotides" (Office Action, page 12). Contrary to the Examiner's assertion, the skilled artisan could readily identify oligonucleotides that meet the requirements of the claims. However, in efforts to reduce the issues and expedite prosecution, this rejection has been rendered moot by the cancellation herein of claims 23 and 25.

The rejection of claims 14 and 16 under 35 U.S.C. §112, first paragraph as allegedly failing to comply with the written description requirement is respectfully traversed. To the extent the rejection is based on the claims requiring "the nucleic acid sequence encoding the SMRT co-repressor to lack any sequence in common with SEQ ID NO:11" (Office Action, page 17), this rejection has been rendered moot by the present amendments to the claims. Thus, as presently amended claim 14 requires that "the polynucleotide is not the sequence of SEQ ID NO:11."

Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

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Rejections under 35 U.S.C. §112, first paragraph—Enablement

The rejection of claims 14 and 16 under 35 U.S.C. §112, first paragraph as allegedly failing to comply with the enablement requirement, is respectfully traversed.

The Examiner acknowledges that the specification is “enabling for polynucleotides encoding a SMRT co-repressor, where the polynucleotide comprises a sequence having at least 80% identity with nucleotides 1 to 3094 of SEQ ID NO:4” (Office Action, page 12). However, the Examiner asserts that the specification “does not reasonably provide enablement for these nucleotide sequences, which also must not encode ‘a sequence’ (i.e., two or more amino acids) of SEQ ID NO:11” (Office Action, pages 12-13). While Applicants disagree with the Examiner’s assertion, in efforts to reduce the issues and expedite prosecution, this rejection has been rendered moot by the present amendments to claim 14, which now requires that “the polynucleotide is not the sequence of SEQ ID NO:11.”

Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

35 U.S.C. §112, second paragraph

The rejection of claims 23 and 25 under 35 U.S.C. §112, second paragraph as allegedly being indefinite, is respectfully traversed for at least the reasons already of record.

In particular, Applicants respectfully disagree with the Examiner’s assertion that these claims are allegedly “vague and indefinite in that the metes and bounds of the phrase ‘high stringency conditions’ are unclear” (Office Action, page 15). It is respectfully submitted that one of skill in the art would readily understand the meaning of the phrase “high stringency hybridization conditions” and could readily identify the appropriate high stringency conditions in order to achieve hybridization of the oligonucleotide to the recited polynucleotide sequences. However, in efforts to reduce the issues and expedite prosecution, this rejection has been rendered moot by the cancellation herein of claims 23 and 25.

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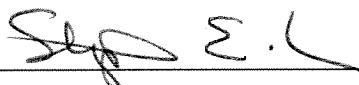
Accordingly, reconsideration and withdrawal of this rejection are respectfully requested.

### CONCLUSION

In view of the above amendments remarks, it is respectfully submitted that the present application is now in condition for allowance. Accordingly, reconsideration and favorable action on all claims are respectfully requested. In the event any matters remain to be resolved in view of this communication, the Examiner is encouraged to call the undersigned so that a prompt disposition of this application can be achieved.

Respectfully submitted,

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